OIB - DC-8 11/03/14 Science Report

Aircraft:
DC-8 (See full schedule)
Date:
Monday, November 3, 2014
Mission:
OIB
Mission Location:
Antarctica
Mission Summary:

F10 Thwaites Glacier A

Accomplishments

- Low-altitude survey (1,500 ft AGL) over Thwaites Glacier.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Collected high altitude data on transit to and from the survey area.
- Ramp pass at Punta Arenas airport after takeoff at 2,000 ft AGL.
- Satellite tracks: none.
- Repeat Mission: portions of 2002, 2009, 2011 and 2012 missions.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	38 GB	A fluid streak outside the T4 window (wide scanner) developed during the flight and reduced 30-40% of the scan on the receive signal, but elevations are expected to be recoverable from the recorded waveforms.
CAMBOT	yes	65 GB	None.
DMS	yes	66 GB	None.
Snow Radar	yes	407 GB	DC-8 radar altimeter interference above 8,500 ft but not on survey lines.
Ku-band Radar	yes	407 GB	DC-8 radar altimeter interference above 8,500 ft but not on survey lines.
MCoRDS	yes	1.1 TB	None.
KT-19	yes	10 MB	None.
Albedo	yes	2.3 GB	None.
Albedo camera	yes	280 MB	None.
Gravimeter	yes	2.0 GB	None.

Mission Report (Michael Studinger, Mission Scientist)

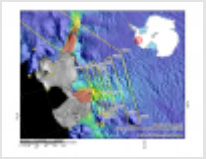
Today's flight is a new mission plan, designed to collect dh/dt measurements over lower Thwaites Glacier. It re-occupies six flight lines first flown in 2011 and 2012 as part of an extensive grid, as well as two crossing lines last flown in 2009, and first flown in 2002 by ATM and CreSIS as part of the NASA-Chilean project.

The areas with promising forecasts for today were the Slessor Glacier and Thwaites Glacier. Thwaites Glacier had much better conditions and higher priority and we therefore decided to fly this baseline mission today.

The conditions in the survey area were good. ATM got 100% surface returns during the low altitude portion of the survey and collected 30 minutes on the way in and 30 minutes on the way out from high altitude. The clouds on the southern end of the survey area stayed just were the models predicted them to be. LiDAR data collection started 11/03/2014 15:15 UTC and ended at 21:15 UTC. In total we collected 5.0 hours of combined high and low altitude LiDAR data.

Images:

Figure 1: Today's trajectory in yellow.



Read more

Submitted by:
Michael Studinger on 11/03/14
Related Flight Report:

DC-8 11/03/14

Flight Number:
150117
Payload Configuration:
Operation IceBridge 2014
Nav Data Collected:
Yes
Total Flight Time:
11.1 hours
Submitted by:
Chris Jennison on 11/04/14
Flight Segments:

From:	SCCI	**To:**	SCCI
Start:	11/03/14 12:02 Z	**Finish:**	11/03/14 23:06 Z
Flight Time:	11.1 hours		
Log Number:	158003	**PI:**	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	All instruments recorded data. McCORDS reported noise en route. Suspicion is facility RadAlt but not noted prior and noise was not noted at data altitudes. 1.1 Tb recorded DMS recorded 65.5 Gb. Later images were hazy. Gravimeter 2 Gb no issues. Snow & Ku radar 407 Gb/ea. All instruments and aircraft are ready for the next flight.		

Flight Hour Summary:

	158003
Flight Hours Approved in SOFRS	300
Total Used	292.1
Total Remaining	7.9

158003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/06/14	150101	Science	1.2	1.2	298.8
10/07/14 - 10/08/14	150102	Science	5.2	6.4	293.6
10/08/14	150103	Science	3.7	10.1	289.9

10/13/14	150104	Transit	10.4	20.5	279.5
10/13/14	150105	Transit	3.2	23.7	276.3
10/16/14	150106	Science	11	34.7	265.3
10/18/14 - 10/19/14	150107	Science	11.9	46.6	253.4
10/20/14	150108	Science	11.7	58.3	241.7
10/23/14	150109	Science	11.8	70.1	229.9
10/25/14	150110	Science	11.4	81.5	218.5
10/26/14 - 10/27/14	150111	Science	11.9	93.4	206.6
10/28/14	150112	Science	11.5	104.9	195.1
10/29/14	150113	Science	10.9	115.8	184.2
10/31/14	150114	Maintenance	2.8	118.6	181.4
11/01/14	150115	Maintenance	3	121.6	178.4
11/02/14	150116	Science	10.9	132.5	167.5
11/03/14	150117	Science	11.1	143.6	156.4
11/05/14	150118	Science	11.4	155	145
11/06/14	150119	Science	11.1	166.1	133.9
11/07/14	150120	Science	10.9	177	123
11/08/14	150121	Science	11.4	188.4	111.6
11/10/14	150122	Science	11.2	199.6	100.4
11/11/14	150123	Science	11.2	210.8	89.2
11/13/14	150124	Science	11.4	222.2	77.8
11/14/14	150125	Science	11.5	233.7	66.3
11/15/14	150126	Science	11.2	244.9	55.1
11/16/14	150127	Science	11.1	256	44
11/21/14	150128	Science	11.2	267.2	32.8
11/22/14	150129	Science	10.8	278	22
11/24/14	150130	Transit	2.9	280.9	19.1
11/25/14 - 11/26/14	150131	Transit	11.2	292.1	7.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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